

## COLLECTION OF MALAWI'S SCIENTIFIC GREY LITERATURE FOR LOCAL AND INTERNATIONAL USE

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**Abstract:** Since 2008, Bunda College of Agriculture Library has been working jointly with [CAB International \(CABI\)](#) (based in the United Kingdom) on an analysis of conservation management and the dissemination of institutional knowledge in Malawi. The work involves visiting agricultural sector institutions and libraries, collecting agricultural research information in Malawi and sending it to CABI for scanning and archiving before the information is made accessible online. The project has assisted in exposing Malawi's scientific research information to a wider audience. The paper discusses the project's challenges and benefits.

**Keywords:** agriculture, scientific research, conservation, Malawi.

### Introduction

Increasing Malawi content online, especially scholarly and research information, has been the intention of Malawi libraries. There is a lot of locally generated scientific information both published and unpublished available in libraries or offices of particular institutions. Such information, vital though it might be, has limited or no accessibility. It is also vulnerable to damage or loss. Efforts are therefore being made to unearth such information, expose it widely and preserve and conserve it. One such effort is a joint project between CABI and Bunda College of Agriculture Library that is aimed at collecting, scanning and creating an electronic information resource available online.

### Background To the Work

Malawi is a member country of [CAB International \(CABI\)](#) and a researcher at one of government agricultural research station is a member of CABI Board. As a member country, most libraries and information centers in Malawi receive CABI publications. Malawi requested for support from CABI in strengthening agricultural information management in national systems.

It is against this background that Bunda College Library embarked on a joint project with CABI on "Situation analysis of conservation, management and dissemination of institutional knowledge." This followed a visit by CABI officials, Janet Halsall, who is based in the UK and Jane Frances Asaba, based in Nairobi, Kenya, from 14th – 22nd June 2008. During that time they visited twelve agricultural-sector research institutions and libraries in Malawi to carry out an analysis of the agricultural research information archives with the aim of developing a pilot project to digitize a portion of the archive and to make it available on a global platform, to be hosted by CABI. The visit revealed that the relevant information is scattered and often not collected in libraries, and the capacity to manage information resources was largely inadequate. The concept of a repository was widely welcomed. Bunda College of Agriculture was identified as the most suitable partner in the pilot project to locate and collate suitable materials for inclusion. Collection of materials was restricted to documents published by Bunda College of Agriculture, Chitedze Agriculture Research Centre, Fish Research Unit, Forestry Research Institute, World Fish Centre, National Aquaculture Centre and Tea Research Foundation.

## CABI presence in Malawi

CABI has been working with various scientific institutions in Malawi for a long time. Its activities were mostly in the distribution of its publications such as CAB Abstracts in printed form or on CD-ROMs; organizing workshops on how to search information using CABI products and services.

The project's activities were as follows:

- Collate locally published scientific materials from seven scientific institutions, namely Bunda College of Agriculture (BCA), Forestry Research Institute of Malawi (FRIM), Tea Research Foundation (TRF), World Fish Center (WFC), National Aquaculture Centre (NAC), Fish Research Unit (FRU) and Chitedze Agriculture Research Station (CARS). These institutions were chosen based on the number of scientific publications they produced.
- Estimate the number of individual articles for inclusion.
- Agree with CABI on the number of documents to include.
- Ship documents to CABI in UK (or to CABI Africa if preferable).

A total of 500 printed publications were collected and shipped to CABI-UK for scanning. They were assessed before scanned. Thereafter all the publications were sent back to Malawi through Bunda College of Agriculture Library. Where necessary, the publications were dispatched back to their originating institutions.

An end product of the project is an information resource - [Global Agricultural Research Archive \(GARA\)](http://www.cabi.org/gara/default.aspx?site=173&page=1538). This is information resource has been set up to digitally capture and create an agricultural knowledge archive on behalf of developing countries around the world. The aim of the project is to preserve, disseminate and apply this valuable material and the knowledge it contains, for the benefit of current researchers and generations to come. The archive is centrally managed and maintained to enable preservation and disaster recovery and the long-term protection of knowledge that might again become inaccessible. GARA has so far 484 full-text publications from Malawi, of which 85 are on aquaculture and fisheries. It also contains publications from Pakistan and the Philippines.



Fig. 1: A snapshot of the database's first page.



Fig. 2: A snapshot of some of Malawi publications.

### Reasons for Developing GARA

Concern about food security and climate change is at an all time high, and it is widely accepted that the most vulnerable communities in the tropical areas of the developing world will be hit hardest. There is much that we already know at local and national levels that could immediately improve yields and reduce losses if effectively disseminated and implemented. However, in developing countries, much of the information is not readily accessible in a format that allows it to be shared within countries, let alone across regions.

CABI is helping solve this problem by creating a network of agricultural information for the world's researchers to share through our GARA initiative. This will mean:

- Improved information sharing across borders.
- Agricultural knowledge can become integrated into the burgeoning knowledge economy, similarly to that in developed countries.
- Local knowledge will be preserved for future local use.

Benefits of accessing the GARA resource:

- Strengthen teaching and research.
- Strengthen extension services and the knowledge of farmers.
- Provide a higher profile of this knowledge to the global community.
- Bring prestige and recognition of expertise and contribution to the global knowledge base.
- Lead to better agricultural science based policies
- Release the knowledge from the past .
- Provide baseline information on issues such as loss of biodiversity, climate change, food security, traditional food crops and indigenous breeds.
- Increase citation of researchers and academics based in developing countries.

- Reduce duplication of research effort.
- Impact positively on the whole national agricultural system and particularly on farmer livelihoods.

### **Project Budget on the Malawi Side**

CAB International provided funding for the visits to institutions to collect publications, photocopying of publications (where necessary), stationery and dispatching of publications to UK. Two trips were made to each of the six institutions to collect publications. The total budget on the Malawi side was in excess of US\$7,000.

### **Publicity for the Resource**

All the twelve institutions that were visited during the initial phase of the project were informed of the existence of the GARA. Follow-up visits were made to the six institutions whose publications were collected and form part of GARA. During such visits scientists, librarians and management were introduced to the database.

### **Feedback from information users**

Response from local users has been good. In a survey carried out on 169 scientists in Malawi, 115 of them have accessed GARA resources at least once.

### **Benefits to Malawi:**

- Unearthing hidden information: visits to various scientific institutions unearthed hidden and inaccessible information resources. These were kept in offices, archives, storerooms and libraries that were in some instances unmanned, for instance at the Tea Research Foundation and Fisheries Research Unit.
- Exposing Malawi scientific information to a wider audience: the publications collected assisted in making important scientific information available to a wider clientele. Information that was available in printed form and at one location is now accessible online.
- Conservation and preservation of Malawi publications: the project has assisted Malawi to preserve and conserve rare scientific publications that could have been lost if left where they were. Most of these publications were in institutional libraries, offices or rooms and not looked after. In certain institutions it was not easy to retrieve publications from where they were kept and some were not in good conditions. Scanning the printed publications will assist in preserving and conserving these rare materials.
- Strengthening linkages among Malawi's scientific institutional libraries: through this project, libraries in the scientific institutions in Malawi, especially the twelve that were visited, are working closely together. For instance, there has been an increase in the number of publications exchanged amongst them. Among the fisheries and aquaculture libraries there was already a network for sharing publications, and this project has strengthened further the already existing cooperation.

### **Impact Of the Database**

It is evident that the resource has improved teaching, learning, research and outreach activities not only at Bunda College of Agriculture, but throughout Malawi. In a survey of 39 dissertations, theses and scientific papers (16 on aquaculture and fisheries science) produced from 2009 to August 2011, it was discovered that 17 (43.6%) of them had listed at least one publication in their references that is also accessible in GARA.

<b>Subject</b>	<b>Publications Surveyed</b>	<b>%</b>	<b>Publications' References with GARA resources</b>	<b>%</b>
Aquaculture and fisheries	16	41	6	15.4
Other subjects	23	59	11	28.2
<b>TOTAL</b>	<b>39</b>	<b>100</b>	<b>17</b>	<b>43.6</b>

### **Challenges To the Project**

- Permission to collect the publication: permissions were sought from the institutions to collect and creating digital copies. In some institutions like the Tea Research Foundation, permission took time to be granted.

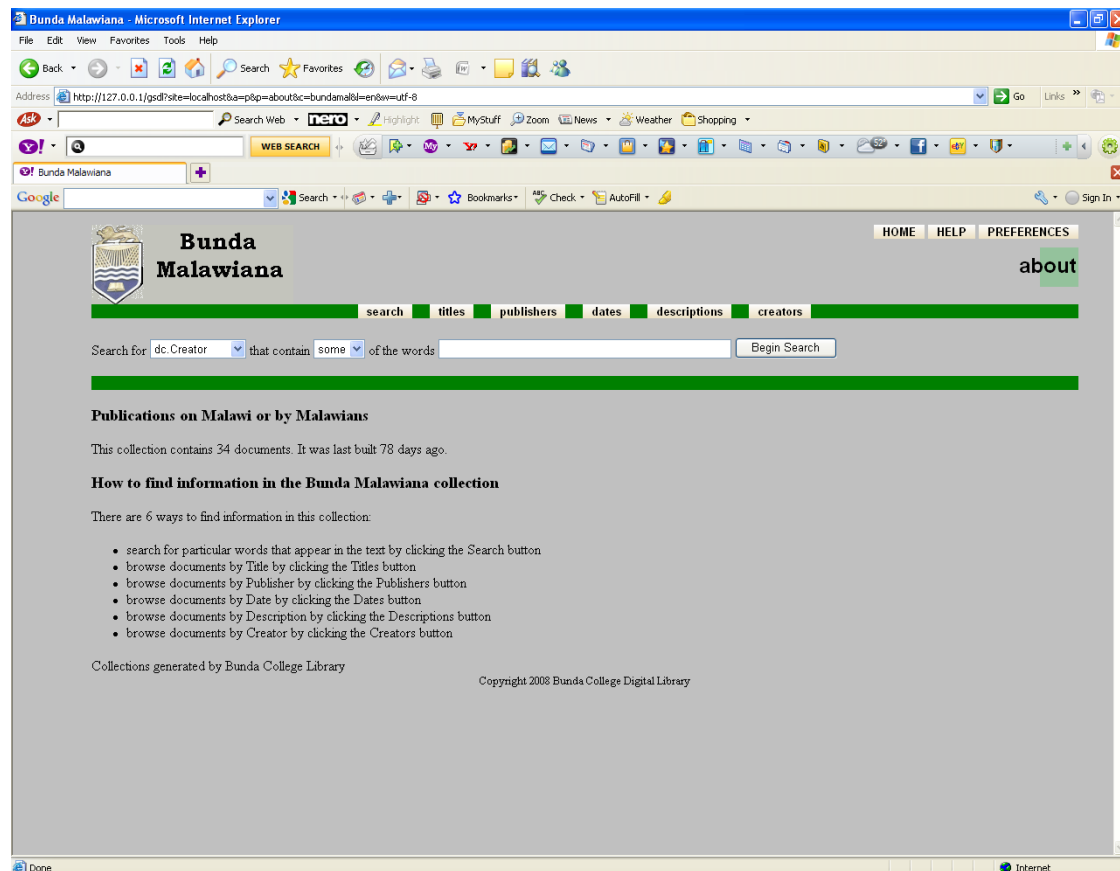
- Inability to scan the publications locally: publications were sent to UK for scanning and creation of a database because there was no capacity locally. This has affected plans to build local capacity. Malawi libraries need to build capacity to create digital library collections for locally produced materials.

However, with funding from INASP, a scanner and OCR (optical character recognition) software were purchased for use by all those institutions without any. This scanner and OCR software are housed at Bunda College of Agriculture Library.

### Future Of New Publications

The project was concluded in 2009; since then more scientific publications have been produced. There are no plans to include these in the database; it is up to Bunda College Library or other institutions in Malawi to do this.

It is pleasing to note that since 2008 Malawi Libraries have created over ten digital library collections of local publications such as dissertations, theses, reports, scientific papers, speeches by politicians, newspaper articles on HIV and AIDS and gender issues. Most of these were not born digital. This paper views digitization as a process that includes scanning and creation of collections using open source software such as Greenstone, DSpace, EndNote and Electronic Records and Management System. In Malawi libraries' digitization processes started after some librarians had attended various training workshops inside and outside the country. Almost all these first generation Malawi digital library collections are currently only accessible on the respective institutional intranets. This restricts the advantages to students and researchers. However, some libraries such as Bunda College of Agriculture have taken the initiative to also make their collections available on CD-ROMs, which are distributed to other institutions. Plans are underway to have these collections made accessible online.



*Fig 3: A sample of a locally created Digital Library.*

## Conclusion

Working with partners such as CABI, INASP, eIFL and IAMSILIC is one way of ensuring that Malawi content is increased and accessible online. The situation analysis of conservation, management and dissemination of institutional knowledge project which Bunda College of Agriculture Library and CAB International is one such effort. What remains is to encourage more scientists and others to access the Global Agricultural Research Archive (GARA).

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